[0064] An alternative embodiment depicted in FIGS. **9** (isometric view), **10** (side view) and **11** (side view including rope illustration). As previously noted with respect to FIGS. **2** through **4**, the guide rollers **9** are mounted to a non-rotating section of the device in order to guide the wraps of the rope down the rotating drum **8**. In that embodiment, the rollers **9** are mounted to the roller support **18**. However, this embodiment requires the support **18** to be moved away from the rotating drum **8** in order to wrap the rope onto the capstan.

[0065] An alternative is to mount the guide rollers **9** to stationary mounts **25** placed between rotating drum sections **8** as depicted in **FIGS. 10, 11** and **12**. These stationary mounts are held stiff with respect to the device via the rotational constraints **24**. The contour of the rotational constraints **24** allows for the rope to be wrapped around the capstan in a spiral fashion, with the wraps guided from one to the next by the guide rollers **9**. The rollers **9** in this embodiment are held in place by the guide roller bolts **27**. The axis of the bolts is oriented radially inward to the rotational axis of the rotating drum **8**. A person skilled in the art will note that the orientation of the guide rollers **9** with respect to the circumference and rotational axis of the rotating drum sections **8** is not limited to that of this particular example other roller orientations will still accomplish the task of moving the rope through each wrap.

[0066] The mounting of the entire capstan assembly embodiment is such that it replaces everything below the gearbox **6** in either of the two aforementioned embodiments. The capstan assembly base **23** mounts to the gearbox **6**, with a drive shaft extending through both, all the way to the capstan end plate **28**. The rotating drum sections **8** are locked to the drive shaft, and radial bearings are inside each stationary section **25**, the capstan assembly base **23**, and the capstan end plate **28**.

[0067] The rope is guided onto the first rotating section **8** by the same guide pulley **7**, and is then wrapped in a helical fashion around the assembly, going through each gap between the guide rollers **9**. Finally, it is slipped between the tensioning roller **10** and the final stationary section **25**, and the tensioner lever **26** is closed. The tensioning roller **10** is pressed against the rope, and is held in place by a latch that keeps the tensioner lever **26** tight against the capstan end plate **28**.

[0068] After the tensioning roller **10** is closed and force is thus applied to the last wrap of the rope on the capstan, the devices is ready to be used. Using this embodiment, the rope can be fully engaged and disengaged from the device without threading an end through the mechanism.

[0069] A smaller version of this device could use the same sort of helical guide **19** and dynamic friction tensioner **10** to advance unlimited lengths of any sort of tensioning material, and could be particularly useful in the manufacture of cord materials such as steel cable, rope, thread, yarn, dental floss, and electrical conductors.

[0070] A person of ordinary skill in the art will recognize that the configurations described in **FIGS. 1-11** are not the only configurations that can employ the principles of the invention. The system and method described above, utilizing circumferential gripping of a rotating drum while pulling with a free end of a tensioning member can be practically employed in other configurations. While certain features and aspects of the illustrated embodiments provide significant advantages in achieving one or more of the objects of the invention and/or solving one or more of the problems noted in conventional devices, any configuration or placement of all the parts, motor, battery, gearbox, and rotating drum/guide assembly with relation to one another could be deployed by a person of ordinary skill in keeping with the principles of the invention.

[0071] The lifting and pulling of heavy objects is a wide-ranging task inherent in many endeavors, commercial, domestic, military, and recreational. Current technology for portable lifting and pulling devices is limited to passive rope ascenders, as in climbers' equipment, and winches and come-alongs, which all have severe limitations for the power sources, rate of pulling, and types of tensioning members they can utilize.

[0072] The present invention, a portable rope pulling and climbing device, can solve many problems associated with using current lifting and pulling technology, including but not limited to: accommodating multiple types and diameters of flexible tensioning members, being able to attach to the flexible tensioning member without threading a free end through the device, providing a smooth continuous pull, providing a device which itself can travel up or along a rope, to provide a device which is easy and intuitive to use, to provide a device which can let out or descend a taut flexible tensioning member at a controlled rate with a range of loads, and to provide a device and method that is usable in and useful for recreation, industry, emergency, rescue, manufacturing, military, and other applications.

[0073] A person of ordinary skill in the art will appreciate further features and advantages of the invention based on the above-described embodiments. For example, specific features from any of the embodiments described above as well as in the Appendix below may be incorporated into devices or methods of the invention in a variety of combinations and subcombinations, as well as features referred to in the claims below which may be implemented by means described herein. Accordingly, the invention is not to be limited by what has been particularly shown and described, except as indicated by the appended claims or those ultimately provided. Any publications and references cited herein are expressly incorporated herein by reference in their entirety.

1. A device for pulling a resilient elongate element, comprising:

a powered rotational motor having an output;

a rotating drum connected to the output of said rotational motor, the rotating drum having a longitudinal axis and a circumference;

a guide mechanism guiding the resilient elongate element onto, around at least a portion of the circumference of, and off of the rotating drum;

whereby when said powered rotational motor turns the rotating drum, the rotating drum thereby continuously pulls the resilient elongate element through the device.

2. The device of claim 1, further comprising a means for powering the rotational motor.

3. The device of claim 2, wherein the means for powering the rotational motor includes a plurality of rechargeable batteries.